

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

**In re Application of:**

Hill et al.

**Serial No.:** 10/067,410

**Filed:** February 4, 2002

**For:** METHOD FOR FORMING A  
SELECTIVE CONTACT AND LOCAL  
INTERCONNECT IN SITU (as amended)

**Confirmation No.:** 8302

**Examiner:** H. Lee

**Group Art Unit:** 2823

**Attorney Docket No.:** 2269-3380.1US

**VIA ELECTRONIC FILING  
September 6, 2007**

**REPLY BRIEF**

Mail Stop Appeal Brief – Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Attn: Board of Patent Appeals and Interferences

Sirs:

This REPLY BRIEF, which is being submitted pursuant to 37 C.F.R. § 41.41, follows the Examiner's Answer of July 6, 2007, the statutory period for response to which expires on September 6, 2007.

VII. ARGUMENT

The Examiner continues to assert that one of ordinary skill in the art would have been motivated by the teachings of Chen or the knowledge that was generally available in the art before date to which a claim for priority has been made in the '410 Application to deposit an interconnect material *in situ* with the deposition of a contact material (e.g., metal silicide).

Despite the fact that Chen, like all of the other art that has been considered in the '410 Application, provides absolutely no motivation for one of ordinary skill in the art to deposit an interconnect material and metal silicide *in situ*, the Examiner continues to assert that "it is conventional practice to form as many processing steps in a single apparatus as possible to avoid contamination from the outside atmosphere." Examiner's Answer, page 4. The Examiner submitted any identifiable reference in support of the assertion that contamination is problematic when wafers are transported in a clean room environment, which is widely known to be the environment in which semiconductor device fabrication processes occur, and where the potential for contamination is already minimized. Furthermore, reaction chambers of the type used in chemical vapor deposition processes are typically purged of any contaminants prior to processing.

In view of the foregoing, it is respectfully submitted that Chen does not teach or suggest each and every element of independent claim 1 or independent claim 20. Furthermore, it is respectfully submitted that one of ordinary skill in the art wouldn't have been motivated to modify the teachings of Chen in the asserted manner. Therefore, the Examiner has not established a *prima facie* case of obviousness under 35 U.S.C. § 103(a) against either independent claim 1 or independent claim 20.

Chen also lacks any teaching or suggestion of “depositing an interconnect material onto [a] contact material after and in situ with causing [a] chemical reaction” “to selectively deposit [the] contact material” on an “exposed active device region of [a] semiconductor device structure.” Despite the Examiner’s acknowledgement of this deficiency (Examiner’s Answer, page 8, section 9.5, second paragraph), the Examiner continues to maintain his rejection of independent claim 20.

All of the other issues that are on appeal before the Board have been addressed in the APPEAL BRIEF.

XI. CONCLUSION

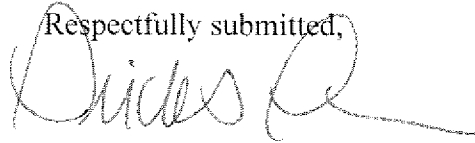
It is respectfully submitted that:

- (A) Claims 1, 8-10, 12-14, 18-20, 23, and 25-28 are allowable under 35 U.S.C. § 103(a) for reciting subject matter which is patentable over the subject matter taught in Chen;
- (B) Claims 2-5 and 21-22 are allowable under 35 U.S.C. § 103(a) for being drawn to subject matter that is patentable over that taught in Chen, in view of teachings from Chang;
- (C) Claims 6 and 7 are allowable under 35 U.S.C. § 103(a) for being directed to subject matter that is patentable over teachings from Chen, in view of the teachings of Kolar;
- (D) Claims 11 and 24 are allowable under 35 U.S.C. § 103(a) for being drawn to subject matter which is patentable over the subject matter taught in Chen, in view of teachings from Kim; and
- (E) Claims 15-17 are allowable under 35 U.S.C. § 103(a) for reciting subject matter that is patentable over the subject matter taught in Chen, in view of teachings from Shinriki.

**Serial No. 10/067,410**

Accordingly, it is respectfully requested that the 35 U.S.C. § 103(a) rejections of claims 1-28 be reversed, and that each of these claims be allowed.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Brick G. Power", written in black ink.

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